Exploring Racial and Age Disproportionalities in COVID-19 Positive Pediatric Cohort

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Background: Social and health inequities place marginalized populations at increased risk of contracting the novel coronavirus 2019 (COVID-19). While COVID-19 literature continues to accumulate, there remains a lack of comprehensive epidemiological data on COVID-19 in children. The study aims to identify demographic trends in disease severity amongst COVID-19 positive pediatric patients.

Methods: We analyzed the medical records of 2217 laboratory-confirmed COVID-19 pediatric patients, ages 0-18, across Indiana. Working with Regenstrief Institute Center of Biomedical Informatics, data was extracted from the databases of Indiana Network for Patient Care, Indiana University Health, and Eskenazi Health from February 28th, 2020 to July 13th, 2020. Factors of interest were age, race, and ethnicity. The study assessed the clinical outcome of disease severity which was defined by one of the following clinical designations: outpatient management exclusively, emergency care without hospital admission, non-pediatric intensive care unit (PICU) hospitalization, PICU hospitalization, and death.

Results: The laboratory confirmed COVID-19 pediatric cohort was composed of 12.2% (N= 270) Black or African American, 49.3% (N=1094) white, and 3.2% (N= 71) American Indian/Alaska Native, Asian/Pacific Islander, and Multiracial combined group. 34.4% of Black or African American patients required emergency (12.2%) or inpatient care (22.2%) while 24.4% white patients required emergency (7.0%) or inpatient care (17.3%). 17.6% of the cohort was 0-5 years old, 24.8% was 6-12 years old, and 57.6% was 13-18 years old. 30.9% of the 0-5 age group required emergency or inpatient care while the percentages of the 6-12 age group and 13-18 age group requiring emergency or inpatient care were 20.6% and 18.9%, respectively.

Conclusion:

While our data is preliminary and requires additional validation, our exploration of racial and age disproportionalities in pediatric coronavirus severity serves to expand on the current COVID-19 literature and understanding of this virus.

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